Qualitative $PM_{2.5}$ Hot-Spot Analysis

CONSTRUCT HIGH OCCUPANCY VEHICLE (HOV) LANES

Interstate 10, from PM 31.2 to PM 33.4
IN LOS ANGELES COUNTY, CALIFORNIA
FROM Interstate 605
TO Puente Avenue

Caltrans EA: 07-11707
Project ID: LA01342

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Introduction

The United States Environmental Protection Agency (EPA) promulgated a National Ambient Air Quality Standard (NAAQS) for $PM_{2.5}$ on July 18, 1997, along with a revised standard for ozone. The EPA then published their final rule on $PM_{2.5}$ designations and classifications in the Federal Register on January 5, 2005, and established areas designated as nonattainment, unclassifiable or attainment/classifiable. The EPA again published a final rule on March 10, 2006 (became effective as of April 5, 2006) that supercedes the FHWA September 21, 2001 "Guidance for Qualitative Project-Level Hot-Spot Analysis in PM_{10} Nonattainment and Maintenance Areas," and establishes conformity criteria and procedures for transportation projects to determine their impacts on ambient $PM_{2.5}$ and PM_{10} levels in nonattainment and maintenance areas (71 FR 12468). The March 10, 2006 final rule requires a qualitative $PM_{2.5}$ and PM_{10} hot-spot analysis to be completed for a project of air quality concern (POAQC). The final rule in 40CFR93.123(b)(1) defines the POAQC as:

(i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;
(ii) Projects affecting intersections that are at Level-of-Service (LOS) D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
(iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
(iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
(v) Projects in or affecting locations, areas, or categories of sites which are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The project under study in this Qualitative $PM_{2.5}$ Hot-Spot analysis (Analysis) proposes to construct a high occupancy vehicle (HOV) lane in each direction of travel along the Interstate 10 (I-10) approximately from its junction with I-605 at PM 31.2 to Puente Avenue at PM 33.4. Based on current and forecast traffic data, the I-10 corridor within the limits of this project experiences and is projected to have a significant number of diesel vehicles; and therefore this project is considered to be a POAQC as described in 40CFR93.123(b)(1)(i) and requires this Analysis.

This Analysis has been prepared according to the procedures and methodology provided in the "Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas" jointly published by EPA and FHWA in March 2006 (March 2006 Guidance).

Project Description and Location

This I-10 corridor within the project limits is commonly referred to as the San Bernardino Freeway and is a major east-west freeway used for intraregional, interregional, and interstate travel and shipping in and out of the Southern California. The I-10 is a part of the Federal National Highway

System and is a major commuter route linking Los Angeles, San Bernardino, and Riverside Counties. The I-10 is a major truck route of key economic importance in Southern California.

The I-10 is currently an eight-lane freeway throughout the most of the project limits from I-605 to Puente Avenue. Recurrent congestion occurs westbound in the morning peak hours and eastbound in the evening peak hours. The majority of the project study area currently operates at capacity in the morning and evening peak hours.

Eastern Los Angeles County and western San Bernardino County are continuing to grow at a rapid rate, including development of both residential and employment land uses. Peak period traffic demand on I-10 currently exceeds capacity and, as a result of existing and forecasted growth, is expected to continue to exceed capacity in the future. The purpose of the proposed I-10 HOV lane project is to promote multiple-person ridership to assist in relieving congestion on this section of I-10 by:

- Providing for a continuous HOV system by connecting existing and approved HOV facilities west of I-605;
- Increasing the person carrying capacity of this section of I-10 by encouraging and supporting the use of shared-ride modes.

The proposed project passes through the City of Baldwin Park (City) in the eastern Los Angeles County. The project area is generally urbanized and the communities along the proposed project were largely developed in the 1940s and 1950s. Existing land uses in the City north of I-10 include commercial (Baldwin Park Town Center, The Sierra Center, small retail shops, motels, restaurants, offices), single and multiple-family residential, trailer parks, institutional and public (Foster School, City of Baldwin Park Maintenance Yard). Existing land uses in the City south of I-10 include single and multiple-family residential, vacant land, open space (Roadside Park), commercial (small retail service shops, motel, auto dealership), light industrial uses and institutional (Garden Care Center and Kaiser Permanente).

An Initial Study/Environmental Assessment (IS/EA) leading to a Mitigated Negative Declaration/Finding of No Significant Impact (MND/FONSI) was prepared by the Department and was approved by the FHWA in January 2003. In February 2006, the Department prepared an Environmental Reevaluation for the proposed project because the design of the proposed project had lasted more than 3 years. The FHWA approved the Environmental Reevaluation, demonstrating that the scope of the proposed project had not changed since the approval of the MND/FONSI.

The project proposes to improve traffic flow by adding one HOV lane in each direction along I-10 from its junction with I-605 to Puente Avenue; and to improve ramps within the limits by modifying access. The proposed project is currently in design phase with target dates to advertise for bids in May or June 2008; to commence construction in October 2008; and to complete construction by April 2012. Traffic data are projected to 2012 and 2030 to demonstrate fully developed traffic conditions following the opening of completed facilities in 2012 as well as to consider the full time frame of current transportation plans in the region.

The projects are identified in the 2004 Regional Transportation Plan (2004 RTP) and in the 2006 Regional Transportation Improvement Program (2006 RTIP) as LA01342 (inclusive of EA 07-11707). The 2004 RTP was adopted in April 2004 and was found to conform by the FHWA on June 7, 2004. The 2006 RTIP was adopted in July 2006 and the FHWA made its conformity determination on October 2, 2006. The proposed project, LA01342, is identified as a Transportation Control Measure (TCM) project and its timely implementation is a crucial element in reduction of air pollutant emissions from roadway transportation sources.

$PM_{2.5}$ Hot-Spot Analysis Methodology

The project is located within the South Coast Air Basin (SCAB) that is designated as a federal nonattainment area for $PM_{2.5,}$ PM_{10}, and 8-hour ozone among other criteria pollutants. The project is considered as a POAQC as discussed above; and therefore, a qualitative hot-spot analysis for both $PM_{2.5}$ and PM_{10} is deemed necessary to satisfactorily meet the conformity requirements in accordance with the March 10, 2006 final rule. The MND/FONSI and its reevaluation approved in January 2003 and February 2006, respectively, however, have provided an appropriate qualitative hot-spot analysis for PM_{10} at the time. Therefore, this Analysis addresses transportation conformity requirements for $PM_{2.5}$ only.

A hot-spot analysis is defined in the 40CFR 93.101 as an estimation of likely future localized pollutant concentrations and a comparison of those concentrations to the relevant air quality standards. A project-level hot-spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area such as a congested freeway corridor. Such an analysis is a means of demonstrating that a transportation project meets Clean Air Act (CAA) conformity requirements to support state and local air quality goals with respect to potential localized air quality impacts.

CAA Section 176(c)(1)(B) is the statutory criterion that must be met by all projects in nonattainment and maintenance areas that are subject to transportation conformity. Section 176(c)(1)(B) states that federally supported transportation projects must not "cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area."

Types of Emissions Considered

In accordance with the March 2006 Guidance, this Analysis will be based on directly emitted $PM_{2.5}$ emissions and will consider tailpipe, brake wear, and tire wear $PM_{2.5}$ emissions. $PM_{2.5}$ precursors and secondary particles are not considered in this Analysis; but they are considered as part of the regional emission analysis prepared for the conforming RTP and RTIP

Vehicles cause dust from paved and unpaved roads to be re-entrained, or re-suspended, in the atmosphere. According to the March 2006 final rule, road dust emissions are only to be considered in $PM_{2.5}$ hot-spot analyses if the EPA or the state air agency has made a finding that such emissions are a significant contributor to the $PM_{2.5}$ air quality problem (40CFR93.102(b)(3)). The South

Coast Air Quality Management District (SCAQMD) has prepared and adopted in June 2007, a Final 2007 Air Quality Management Plan (Final 2007 AQMP) in which the paved road dust ranks high among the top ten categories of directly emitted $PM_{2.5}$ in the SCAB. The California Air Resources Board (CARB) has incorporated the adopted 2007 AQMP for the SCAB as part of their State Implementation Plan (SIP) for $PM_{2.5}$ and has submitted to EPA for approval. In anticipation of the EPA action on the $PM_{2.5}$ SIP, the re-entrained $PM_{2.5}$ road dust has been considered in this Analysis.

According to the project schedules, the construction will not last more than 5 years, and construction-related emissions may be considered temporary; therefore, any construction-related $PM_{2.5}$ emissions due to the proposed project will not be included in this Analysis. The construction of this project will comply with the SCAQMD Fugitive Dust Rules (Rule 403) for any fugitive dusts emitted during the construction of this project. Excavation, transportation, placement, and handling of excavated soils will result in no visible dust migration. A water truck or tank will be available within the project limits at all times to suppress and control the migration of fugitive dusts from earthwork operations. The project will comply with any state, federal, and/or local rules and regulations developed as a result of implementing control and mitigation measures proposed as part of their respective SIPs.

National Ambient Air Quality Standard

Nonattainment and maintenance areas are required to attain and maintain two standards for $PM_{2.5}$ as follows:

- 24-hour standard: 65 micrograms per cubic meter ($\mu g/m^3$)
- Annual standard: 15 $\mu g/m^3$.

Although the EPA has recently reduced the $PM_{2.5}$ 24-hour standard from 65 to 35 $\mu g/m^3$ based on the 2004–2006 monitored data with an effective date of December 2006, this Analysis will consider the 1997 $PM_{2.5}$ standard noted above (65 $\mu g/m^3$) because this is the standard upon which the current $PM_{2.5}$ nonattainment designations were based. New area designations based on the new $PM_{2.5}$ standard of 35 $\mu g/m^3$ are anticipated to become effective early 2010. This Analysis will consider both 24-hour and annual standards for $PM_{2.5}$ as noted above.

The 24-hour standard is based on a 3-year average of the 98th percentile of 24-hour $PM_{2.5}$ concentrations; and, the current annual standard is based on a 3-year average of annual mean $PM_{2.5}$ concentrations.

Climate and Meteorology of the South Coast Air Basin

The climate in and around the project area, as with all of Southern California, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. It maintains moderate temperatures and comfortable humidity, and limits precipitation to a few storms during the winter "wet" season. Temperatures are normally mild, except in the summer months, which commonly bring substantially higher temperatures. In all portions of the SCAB,

temperatures well above 100 degrees Fahrenheit have been recorded in recent years. The annual average temperature (over three decades) in the SCAB where this project is proposed is approximately 64 degrees Fahrenheit.

Winds in the project area are usually driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes. At night the wind generally slows and reverses direction traveling towards the sea. Wind direction will be altered by local canyons, with wind tending to flow parallel to the canyons. During the transition period from one wind pattern to another, the dominant wind direction rotates into the south and causes a minor wind direction maximum from the south. The frequency of calm winds (less than 2 miles per hour) is less than 10 percent. Therefore, there is little stagnation in the project vicinity, especially during busy daytime traffic hours.

Southern California frequently has temperature inversions that inhibit the dispersion of pollutants. Inversions may be either ground based or elevated. Ground based inversions, sometimes referred to as radiation inversions, are most severe during clear, cold, early winter mornings. Under conditions of a ground-based inversion, very little mixing or turbulence occurs, and high concentrations of primary pollutants may occur local to major roadways. Elevated inversions can be generated by a variety of meteorological phenomena. Elevated inversions act as a lid or upper boundary and restrict vertical mixing. Below the elevated inversion, dispersion is not restricted. Mixing heights for elevated inversions are lower in the summer and more persistent. This low summer inversion puts a lid over the SCAB and is responsible for the high levels of ozone observed during summer months in the SCAB.

The 30-year average temperature, from 1971 to 2000, using data obtained from the Western Region Climate Center's Montebello meteorological station (#045790) shows a wintertime low of 47.4 degrees Fahrenheit in December. The summertime high is averaged at 88.6 degrees Fahrenheit in July. The rainfall season is from November to April with an annual average of 16.75 inches.

Ambient and Projected Concentration Data

Ambient $PM_{2.5}$ concentration data were obtained from the Azusa monitoring station; and were reviewed to establish the current ambient level within the project limits and to help establish future localized pollutant concentrations as affected by the proposed project. The Azusa station is located approximately 0.42 mile north of I-210 and approximately 5 miles northeast from the easternmost end of the proposed project. Figure 1 illustrates the proximity of these monitoring stations to the freeway and to the proposed projects.

The portion of I-210 by which the Azusa monitoring station is located currently carries the following roadway traffic volumes:

Table 1 Roadway Traffic near the Air Quality Station and the Proposed Project

Location	Total Vehicle AADT	3+ Axle AADT	Total % Truck (3+ Axle)
I-10 within the proposed project limits (I-10 from PM 31.151 to 34.457)	219,000 to 258,000	10,366	4.0 to 4.7
Azusa monitoring station (I-210 at Irwindale Ave. Interchange, PM 37.862)	248,000	10,488	4.2

Source: Caltrans Traffic and Vehicle Data Systems Unit accessed in April 2008

As indicated in Table 1, the portion of I-10 within the project limits, currently experiences volumes comparable to the portion of I-210 where the monitoring station is located. Percentage and volume of trucks carried along the portion of I-210 adjacent to the Azusa monitoring station is deemed comparable to those within the project limits as Table 1 indicates that the truck percentages and volumes adjacent to the Azusa monitoring station fall within the ranges experienced throughout the project limits.

A review of readily available aerials and land use data in the EPA data inquiry website indicate that the Azusa station is located in an area with mixed commercial and residential uses. The land use pattern along the proposed project limits also includes residential, commercial, and light to restricted industrial, as indicated in the approved MND/FONSI.

Based on the comparison of the traffic volumes, land uses, and the proximity to the freeway, the ambient concentration data measured at the Azusa monitoring station are deemed representative for comparison to the proposed project. Table 2 summarizes ambient $PM_{2.5}$ monitoring data at the Azusa monitoring station. Figure 2 illustrates the monitored concentrations at the Azusa monitoring station and compares them with the current and future respective standards.

Table 2 Ambient $PM_{2.5}$ Monitoring Data

	2002	2003	2004	2005	2006	2007
3-year average 24-hour 98th percentile	58.0	56.0	53.7	54.3	48.3	45.0
Exceeds federal 24-hour standard (65 $\mu g/m^3$)?	No	No	No	No	No	No
3-year national annual average	21.0	20.7	19.5	18.2	16.9	15.8
Exceeds federal annual standard (15 $\mu g/m^3$)?	Yes	Yes	Yes	Yes	Yes	Yes

Based on data from http://www.epa.gov/air/data/monvals.html?st~CA~California accessed on 4/4/2008.

The monitored data indicate that the Azusa monitoring station has not exceeded the federal 24-hour $PM_{2.5}$ standard (65 $\mu g/m^3$) over the last six years; and has shown constant decrease in the 3-year average 24-hour ambient concentrations except in 2005 when the concentration slightly increased by approximately 1%. Three-year annual average $PM_{2.5}$ concentrations monitored at the Azusa monitoring station have exceeded the federal annual $PM_{2.5}$ standard of 15 $\mu g/m^3$ between

2002 and 2007. However, as illustrated in the 24-hour monitored concentrations as well, the annual average concentrations monitored at the Azusa monitoring station also exhibit a constant decline over the last six years. The monitored $PM_{2.5}$ concentrations as well as the current and future federal $PM_{2.5}$ standards are illustrated in Figure 2.

These monitored concentrations and their declining trends are consistent with discussions in the approved 2003 AQMP and the Final 2007 AQMP by the SCAQMD. The isopleth maps in the 2003 AQMP (Figure 3) and the Final 2007 AQMP (Figure 4) indicate that the monitored concentrations in the area of Azusa station have been reduced although they do still exceed he federal annual average standard.

The declining trends in the future $PM_{2.5}$ baseline concentrations are discussed in the Final 2007 AQMP. Although the Final 2007 AQMP does not provide reference to the Azusa monitoring station, the Final 2007 AQMP does indicate that a reduction below the federal $PM_{2.5}$ annual average standard will be achieved in Los Angeles (approximately 14 $\mu g/m^3$) and Burbank (13 ug/m3) by as early as 2015. The Final 2007 AQMP also indicates that the new federal $PM_{2.5}$ 24-hour standard (35 $\mu g/m^3$) will be achieved at the Burbank Station by 2024 with a projected baseline concentration of 33 $\mu g/m^3$; but not at the Los Angeles – Main St. Station (projected at 40 $\mu g/m^3$). The current 1997 federal $PM_{2.5}$ 24-hour standard of 65 $\mu g/m^3$, nevertheless, is currently attained at both monitoring stations. As evidenced by the Final 2007 AQMP, a further decrease in the 24-hour and annual average concentrations is anticipated by the regional horizon year, 2030.

The $PM_{2.5}$ SIP has recently been submitted to the EPA; and an emission budget adequacy/inadequacy determination is anticipated in the near future.

Current Traffic Conditions

Existing average daily traffic volumes, truck percentage, and average daily truck volumes along I-10 within the project limits are shown in Table 1. Future traffic data have been projected based on the current conditions and future improvements; and are summarized in Tables 3 and 4. Table 1 indicates that the facility currently experiences truck volume of 10,366 or 4.0 to 4.7% (for 3+ axles only). In terms of traffic congestion experienced by motorists, the traffic analysis for this project described the facility as operating at LOS F, indicating that typical motorists would experience traffic congestion for more than 15 minutes but less than 1 hour during peak hours.

Traffic Changes Due to the Proposed Projects

The project proposes to widen freeway mainline to add an HOV lane in each direction; increase the capacity of I-10; and modify interchanges with local streets. This type of projects improves freeway mainline and interchange operations by reducing traffic congestion and improving ingress/egress movements. Tables 3 and 4 below summarize average traffic volumes and speeds projected along the I-10 within the project limits. Traffic projections were conducted for over 7 individual segments within the project limits; however, the future projections in Tables 3 and 4 are shown as averages over all the segments. According to Tables 3 and 4, the Build Alternative is

anticipated to result in improvements in vehicle speeds along the I-10 corridor as well as in the surrounding areas due to the anticipated increase in capacity and improvement in operations.

Traffic and speed data along the I-10 corridor and the surrounding areas were considered for this Analysis and in calculating $PM_{2.5}$ emissions, including $PM_{2.5}$ re-entrained road dust. Vehicle miles traveled (VMTs) on arterials, secondary streets, and portions of neighboring freeways were considered to encompass a portion of I-605 as summarized in Table 5. The summary in Table 5 indicates that the implementation of the proposed project helps reduce traveling on other surrounding freeways and arterials/secondary streets while an increase is anticipated in total VMTs along this I-10 corridor.

Table 3 Average Daily Volumes and Speeds in 2012 within the project limits

	ADT		**Average Peak Period Speeds, MPH**
	Total	**Truck**	
No-Build	242,043	16,626	45 to 56
Build	207,871 MF / 35,986 HOV	16,793	55 to 60

Table 4 Average Traffic Volumes and Speeds in 2030 within the project limits

	ADT		**Average Peak Period Speeds, MPH**
	Total	**Truck**	
No-Build	265,900	18,270	40 to 53
Build	231,357 MF / 40,129 HOV	18,556	51 to 58

Table 5 Summary of Vehicle Miles Traveled for The I-10 Corridor and Surrounding Areas

	Freeways		**Arterials**		
	Mixed Flow	HOV	Major	Primary	Secondary
2007 Existing	2,800,204	105,878	1,325,296	1,074,790	35,832
2012 No-Build	2,850,591	130,602	1,373,540	1,129,051	39,496
2012 Build	2,813,603	190,841	1,359,326	1,118,853	37,579
2030 No-Build	3,031,984	219,605	1,547,221	1,324,389	52,689
2030 Build	2,939,513	370,204	1,511,683	1,298,896	47,896

$PM_{2.5}$ Emissions

ARB's latest emission model, EMFAC2007, was utilized in estimating existing and future project-level $PM_{2.5}$ emissions for the project alternatives. Table 6 summarizes tailpipe, brake wear, and tire wear $PM_{2.5}$ emissions while Table 7 below summarizes re-entrained $PM_{2.5}$ road dust.

Table 6 Existing and Future $PM_{2.5}$ Emissions by Project Alternatives (lb/day)

	Existing	**Opening, 2012**	**Horizon, 2030**
No-Build	536	479	389
Build		474	383

Summaries of $PM_{2.5}$ emissions in Tables 6 and 7 indicate that the implementation of the projects would result in reduction of $PM_{2.5}$ emissions when compared to the No-Build scenario. It should be noted that this reduction in the Build emissions has been resulted despite its overall increase in the truck and total volumes along the I-10 within the project limits. The State vehicle codes prohibit the use of an HOV lane by trucks with 3 or more axles and school buses; therefore, the addition of an HOV lane in the eastbound and westbound directions would accommodate primarily gasoline-fueled light duty and alternative fueled (typically CNG or LNG) transit vehicles. State and local transit fleet rules essentially prohibit the acquisition of diesel-powered transit vehicles for use in the SCAB.

Re-entrained $PM_{2.5}$ road dust was estimated based on the existing and projected traffic data; and was computed using the emission factor equations provided in the Fifth Edition, Volume I of EPA's AP-42 document dated November 1, 2006. As indicated above, re-entrained $PM_{2.5}$ road dust has been considered in this Analysis in anticipation of the EPA action on the $PM_{2.5}$ SIP submitted recently by the CARB.

Table 7 $PM_{2.5}$ Re-entrained Road Dust by Project Alternatives (lb/day)

	Existing	**Opening, 2012**	**Horizon, 2030**
No-Build	6	7	9
Build		6	8

As indicated in Table 7, implementation of the proposed project is anticipated to result in reduction of re-entrained $PM_{2.5}$ road dust. According to Table 5, the proposed project is anticipated to affect traffic patterns in the immediate area along the I-10 within the project limits; and to redistribute traveling from arterials and secondary streets on to the freeways as suggested by the changes (respective increase and decrease thereof) to the VMTs on the respective roadway facilities. According to the EPA's AP-42, surface secondary streets have higher silt loading factors than the freeways; and therefore, a decrease in VMTs on the secondary streets is anticipated to result in projected reduction of re-entrained $PM_{2.5}$ road dust by 2012 and 2030 when compared to the No-Build scenario.

CONCLUSIONS

Transportation conformity is required under CAA Section 176(c) to ensure that federally supported highway and transit project activities are consistent with the purpose of the SIP. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant AAQS. As required by the March 10, 2006 final rule, this Analysis demonstrates that this project meets the CAA conformity requirements to support state and local air quality goals with respect to potential localized air quality impacts as indicated below.

Historical meteorological and climatic data support that the regional and local meteorological and climatic conditions have been relatively consistent within the last 30 years and likely consistency is anticipated by the horizon year of 2030. In addition, no significant changes to the current general terrain and geographic locations of the project in relation to the coastal SCAB areas are anticipated.

Monitoring of $PM_{2.5}$ emissions have only recently initiated and do not have a long trail of monitored data available; however, based on the recent data at the Azusa monitoring station, there is a declining trend of background $PM_{2.5}$ concentrations within the project area. As discussed in the Final 2007 AQMP, all areas within the SCAB will be in attainment of the federal annual and 24-hour standards by 2015; and the implementation of the 8-hour ozone control strategy will continue to lower annual $PM_{2.5}$ concentrations.

Federal regulations and the State's Diesel Risk Reduction Plan require future diesel vehicles to have substantially cleaner engines and to use fuels with lower sulfur contents. These federal and state requirements would help further reduce $PM_{2.5}$ emissions in the future by essentially lowering per-vehicle emissions for each of the diesel vehicles.

As indicated in Tables 6 and 7, the proposed project would result in lower $PM_{2.5}$ emissions than the No-Build scenario. This decrease in the PM emissions is the result of increase in vehicle speeds and reduction of congestion anticipated with implementation of the projects.

Traffic volumes along the I-10 within the project limits are forecasted to increase when compared to the No-Build as summarized in Tables 3 and 4. Redistribution and/or reduction of the overall traveling in the surrounding area, measured in VMTs, however, are expected with the implementation of the projects; and as a result, re-entrained $PM_{2.5}$ road dust emissions are anticipated to decrease when compared to the No-Build.

The historical meteorological and climatic data, monitored PM emissions data and their declining trends, current and projected traffic data, and the Federal regulations and the State's Plan, support the assertion that the project will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS. Activities of this project should, therefore, be considered that they are consistent with the purpose of the SIP and it should be determined that this project conforms to the requirements of the CAA.

Figures

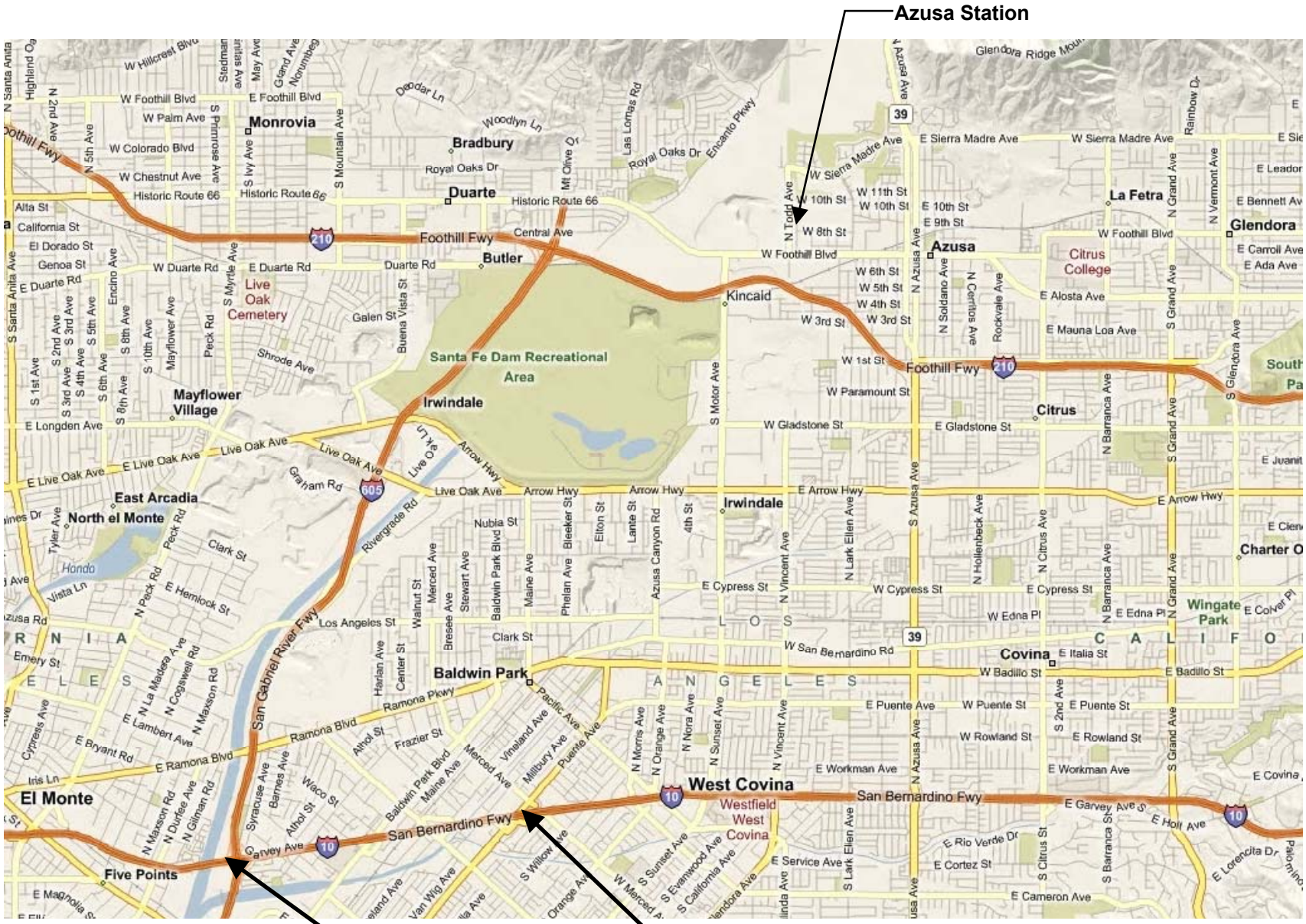

Figure 1 Site Vicinity Map

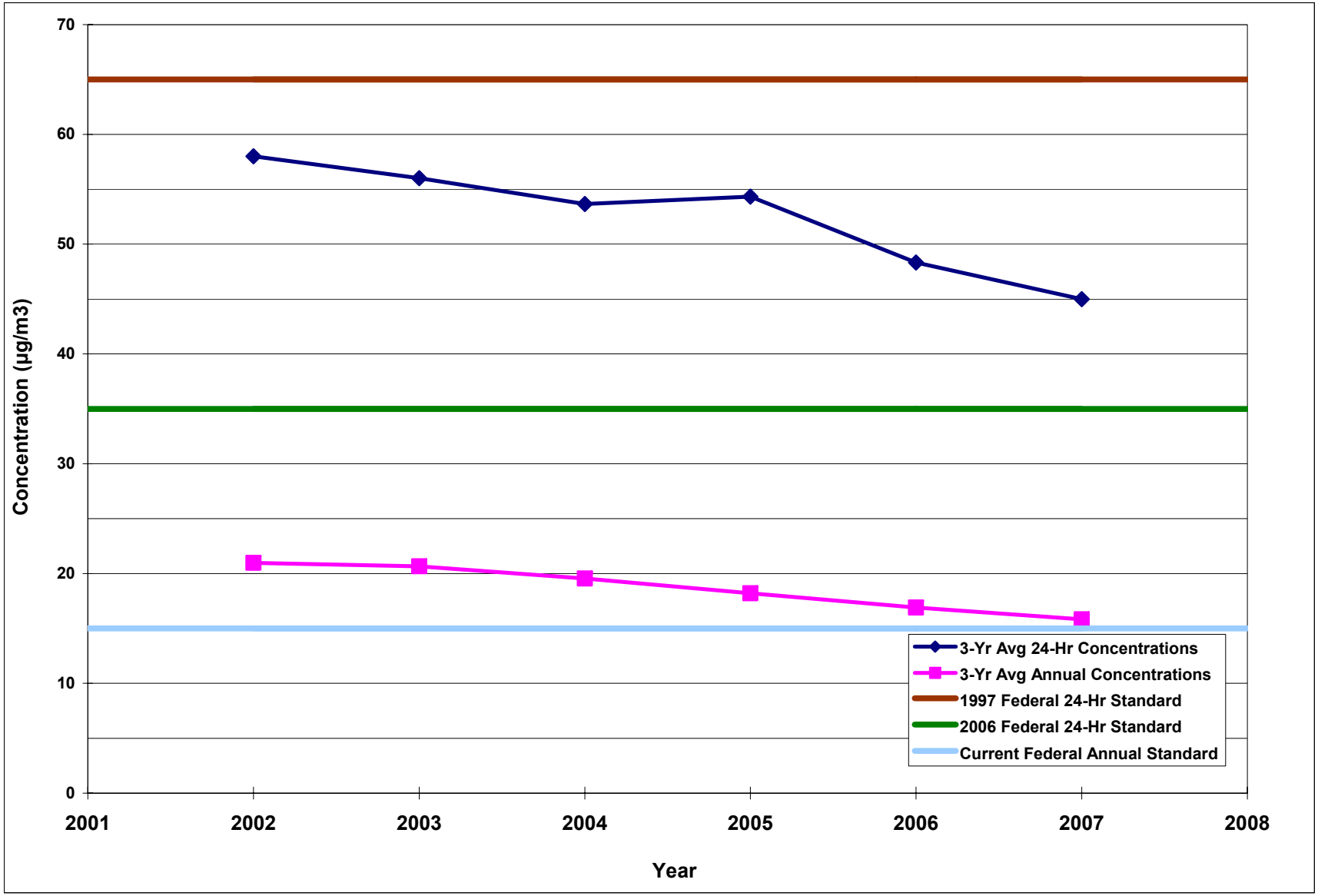

Figure 2 Ambient $PM_{2.5}$ Monitoring Data at Azusa Monitoring Station

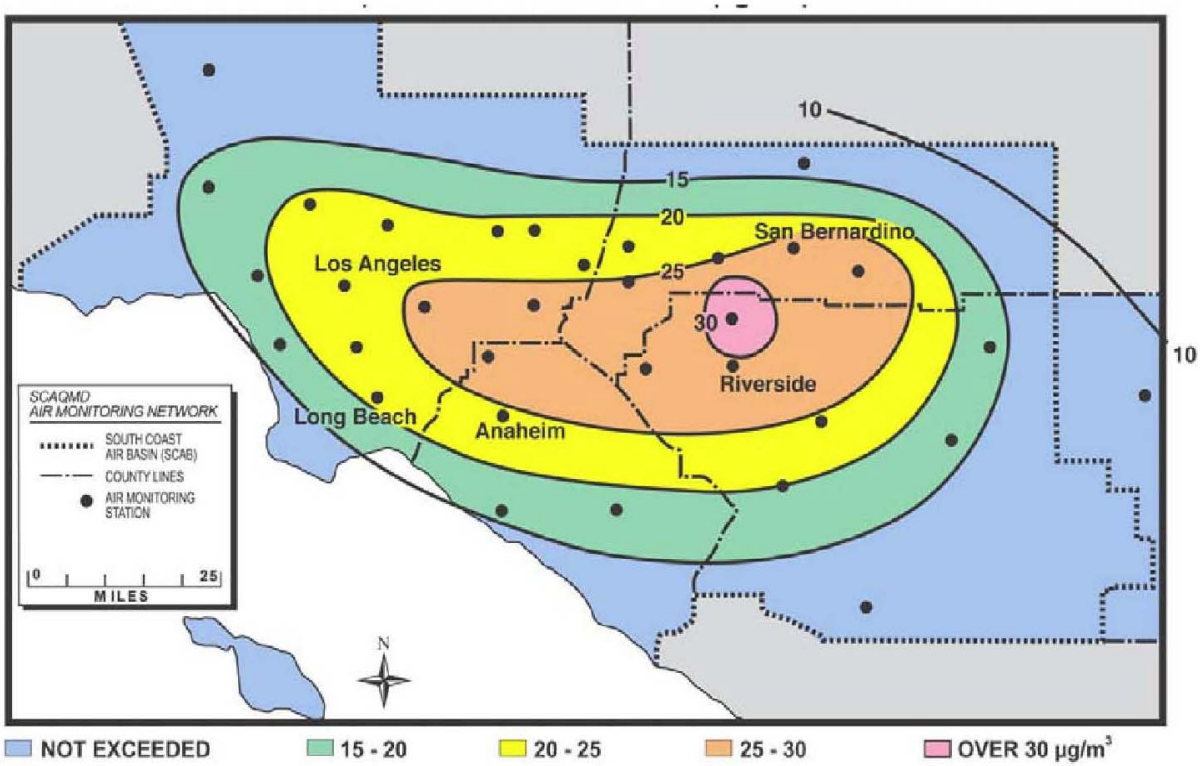

Figure 3 Annual Average PM2.5 Concentrations in 2001 (from 2003 AQMP)

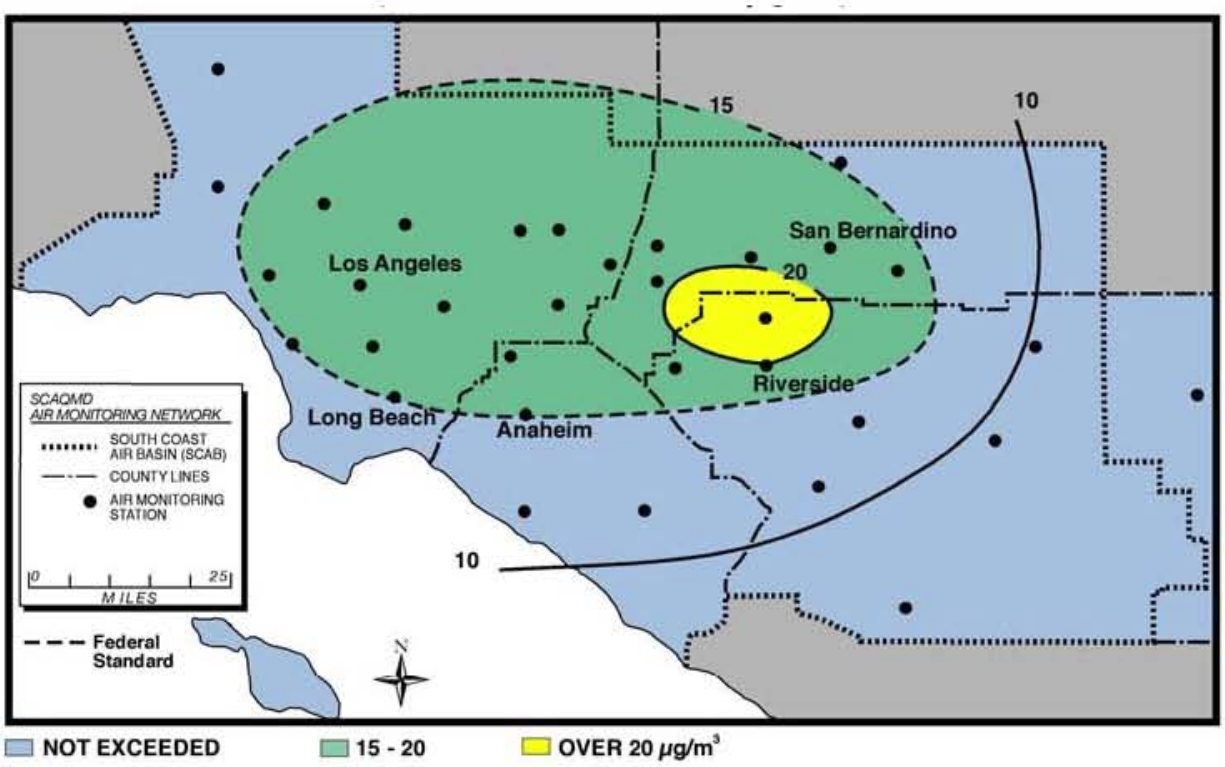

Figure 4 Annual Average $PM_{2.5}$ Concentrations in 2005 (from 2007 AQMP)